

MINUTES

**INSTALLATION RESTORATION PROGRAM
RESTORATION ADVISORY BOARD MEETING
ABERDEEN PROVING GROUND, MARYLAND**

THURSDAY, 29 January 2004

7:00 p.m. – 9:30 p.m.

EDGEWOOD SENIOR CENTER

RESTORATION ADVISORY BOARD MEMBERS PRESENT AT THIS MEETING:

Mr. Kevin Barnaba	Mr. Ted Henry
Ms. Glenda Bowling	Mr. Greg Kappler
Mr. Arlen Crabb	Mr. Doug Richmond
Mr. Roy Dietz	Mr. Ken Stachiw (Army Co-Chair)
Mr. Butch Dye (Maryland Department of the Environment)	Mr. Frank Vavra (U.S. Environmental Protection Agency)
Ms. Mandi Elliott-Bird	Ms. Ruth Ann Young

RESTORATION ADVISORY BOARD MEMBERS NOT PRESENT AT THIS MEETING:

Dr. Cal Baier-Anderson	Mr. Dan Pazdersky
Ms. Christine Grochowski	Mr. Dennis Warwick
Mr. Thomas G. McWilliams	

ENCLOSURES TO THESE MINUTES:

- 1: Roster of Meeting Attendees
- 2: Agenda
- 3: February 2004 Calendar of Events
- 4: Unexploded Ordnance (UXO) Incident Reports
- 5: Performance Based Contracting Questions Presentation Materials
- 6: Kings Creek Chemical Disposal Site Update Presentation Materials
- 7: O-Field Study Area Update Presentation Materials

I. EXECUTIVE SUMMARY

Administrative Comments

Mr. Ken Stachiw (Chief, Directorate of Safety, Health and Environment (DSHE) Environmental Conservation and Restoration Division (ECD)) welcomed Mr. Butch Dye (Maryland Department of the Environment (MDE)) as Mr. Karl Kalbacher's (MDE) replacement. RAB Members were reminded that the Tier 3 Operations Security (OPSEC) Task Group Meeting is scheduled for 5 February 2004. The annual RAB site tour at Graces Quarters and Carroll Island went well on 10 January 2004. RAB members who have been unable to attend any previous RAB tours can make arrangements for private tours. Mr. Stachiw announced that Mr. Randy Cerar (Army Environmental Center (AEC)) would be available at the next RAB Meeting to address questions about performance-based contracts (PBCs).

Performance-Based Contracting Questions

Mr. Cerar stated that activities are still in the development stage, but the AEC is developing a list of potential sites for PBC implementation. Possible site locations identified thus far include eight solvent contaminated sites in the Aberdeen Area, and Graces Quarters.

Mr. Cerar addressed the concern of whether PBCs would be better implemented before or after a Record of Decision (ROD) is already in place for a site, and stated that ROD and contract wording would be very important in determining contractor bidding, available technology, and how a contract is carried out. The AEC can provide responses to questions raised at the 4 December 2003 RAB Meeting in writing, if requested.

Mr. Cerar explained the Army environmental and AEC organizational structures, and the chains of command pertaining to each. The Army organizational structure has been centralized to better manage Army resources.

Perchlorate Detections Update

Mr. Stachiw provided an update on the perchlorate detections in the Aberdeen Area of APG. The 20 January 2004 sampling of the City of Aberdeen production (CAP) wells detected perchlorate at 1.4 and 2.0 parts per billion (ppb) in CAP wells 3 and 9, respectively. CAP wells 8 and 10 had detections of 0.70J and 0.65J ppb, respectively. Perchlorate was detected in the finished water at a concentration of less than 0.5 ppb on 20 January 2004.

Kings Creek Chemical Disposal Site Update

Mr. Don Green (DSHE ECRD Project Officer) provided an update on the discovery of glassware at the Kings Creek Chemical Disposal Site on 10 April 2003. In April 2003, a temporary protective impoundment was constructed around the removal action site, chemical agent monitoring was initiated, and ordnance fragments were removed along the shoreline.

A Level B cleanup removal of visible glassware and ordnance was conducted at the site. Removal included 27 glass bottles containing varying amounts of unknown solids, liquids, or multiphase chemicals, 16 empty glass bottles, five glass stoppers, and broken glassware. Approximately 80 pieces of ordnance scrap were removed.

Magnetic clearance of the shoreline was completed on 29 April 2003, and the removal of trees and brush impacted by shoreline erosion was initiated. The placement of temporary sand and gravel shoreline stabilization was completed by 1 May 2003. The site was dressed and demobilized by 2 May 2003.

In November and December 2003, a grid was established, and test dig operations were conducted. Through mid-December, 10 surface water/sediment, and 10 soil samples were collected for further risk assessment analysis. A second evolution of glassware was recovered, including 29 additional items. Analytical results yielded detections of mustard and lewisite in five bottles. Additional field activities include ground-penetrating radar (GPR) surveys at five traverses based on previous geophysical surveys, and analysis of test dig results.

O-Field Study Area Update

Ms. Cindy Powels (DSHE ECRD Project Officer) provided an update on the O-Field Study Area, including Old O-Field (Operable Unit (OU) 1 and OU2), Watson Creek (OU3), and New O-Field (OU4).

Old O-Field (OU1 and OU2)

The Interim RODs for OU1 and OU2 at Old O-Field were obtained in September 1991, and October 1994, respectively. Approximately 12.2 million gallons of groundwater were treated at the groundwater treatment facility (GWTF) during 2003, without any discharge violations. A maintenance shutdown lasted for two weeks in November 2002, with only minor shutdowns from December 2002 to December 2003. General Physics (GP) assumed Operations and Maintenance (O&M) responsibilities for the permeable infiltration unit (PIU) and GWTF in February 2003.

A containment pit overflow at the GWTF, in part due to sludge build-up in storage tanks, occurred on 11 January 2004. Notification and reporting requirements were fulfilled. Corrective measures and automation upgrades are currently underway, and scheduled for completion in March 2004.

Weather has played a significant role during 2003, causing plant shutdowns due to record snowfall and Hurricane Isabel, and record levels of precipitation. Due to high precipitation, pumping of extraction wells has been altered to allow optimized pumping in the east-central portion of the well field. Monthly groundwater contour maps have demonstrated a relatively flat hydraulic gradient in the well field despite the high precipitation. Quarterly groundwater sampling results for 2003 have shown relatively stable low volatile organic compound (VOC) and chemical warfare materiel (CWM) concentrations in the northern, southern, and western portions of the well field, and a slight increase in VOCs and CWM in the eastern portion.

Two localized areas of subsidence were observed at the PIU in March 2003. Area 1 was repaired in April 2003, and Area 2 is still under observation. PIU subsidence recurred in late May 2003 in Area 1, and was repaired by December 2003. A new area of subsidence, Area 3, was detected in January 2004, in the southern area of the PIU. Repair is scheduled for May 2004.

Modifications for Old O-Field include reducing National Pollutant Discharge Elimination System (NPDES) sampling frequency to once a month, eliminating effluent acute toxicity testing, reducing groundwater sampling frequency to semi-annually, eliminating the air stripper from the organics treatment process, annual characterization of process wastes, focusing groundwater extraction to areas of highest contamination, and automating the GWTF to reduce costs.

Watson Creek (OU3)

The OU3 ROD was obtained in September 1997, and involved limited action with long term monitoring. Fourth year monitoring results have shown no increasing trends in sediment concentrations, uncertain mercury concentrations in Watson Creek fish, and regional problems with mercury contaminated fish.

Fifth year monitoring consisted of sediment sampling prior to and after Hurricane Isabel, which will allow evaluation of storm impacts on metals levels in creek sediments. The fifth year report will be available in February 2004.

The sixth year monitoring plans will be expanded to develop a better understanding of potential risk, and to integrate source area remedies. Planned actions include access restrictions, continued annual sediment monitoring, sampling surface water and sediment water, sampling fish tissue, mapping of aquatic vegetation in Watson Creek, and bird observation.

New O-Field (OU4)

Removal action has been completed in Areas 1 through 6, and Area 7 will be addressed following completion of the Area 3 Extension. Large amounts of non-energetic unexploded ordnance (UXO), mixed compositions, concrete, bulk steel, and reportable items have been removed. Removal action in Area 2 has resulted in the formation of a large pond, now used by waterfowl. Additional sediment and surface soil samples are needed to assess the pond. Removal action efforts are ongoing, work continues with excavated soil, and site demobilization is planned for Winter 2004.

Ecological Risk Assessment (ERA) sampling efforts involved the collection of 9 sediment, 9 surface water, and 4 waste pile samples from November to December 2003. Samples were analyzed for full suite chemistry, and toxicity tests were conducted. Test results will be available in late January 2004. Additional soil testing may be planned. Results of the risk assessment will be used to develop remedial alternatives in the draft New O-Field Feasibility Study (FS), planned for Fall 2004.

Other O-Field Areas (OOA)

Limited investigations have been conducted at OOA. This area has been selected for further investigation based on comments on the O-Field Remedial Investigation (RI) report. Follow-on RI/FS activities at OOA will include historical record searches, geophysical surveys, direct push technology (DPT) sampling, monitoring well installation, and media sampling. Field activities are scheduled for February through May 2004. The draft RI Addendum is planned for July 2004. A FS, Proposed Plan, and ROD may be required, and are tentatively scheduled for 2005.

II. OPENING REMARKS AND ADMINISTRATIVE COMMENTS

The January 2004 U.S. Army Garrison Aberdeen Proving Ground (APG) Installation Restoration Program (IRP) Restoration Advisory Board (RAB) meeting was called to order by Mr. Kenneth Stachiw (Chief, Directorate of Safety, Health and Environment (DSHE) Environmental Conservation and Restoration Division (ECD); Army Co-Chair) at 7:00 p.m. on Thursday, 29 January 2004. The meeting took place at the Edgewood Senior Center located at 1000 Gateway Road in Edgewood, Maryland.

Enclosure 1 to these minutes is a meeting attendance list. RAB Members in attendance received an agenda (Enclosure 2), a RAB calendar of events for February 2004 (Enclosure 3), Unexploded Ordnance (UXO) Incident Reports (Enclosure 4), a copy of the Performance Based Contracting Questions

presentation (Enclosure 5), a copy of the Kings Creek Chemical Disposal Site Update presentation (Enclosure 6), and a copy of the O-Field Study Area Update presentation (Enclosure 7).

Mr. Stachiw welcomed Mr. Butch Dye from Maryland Department of the Environment (MDE), who will be replacing Mr. Karl Kalbacher due to reorganization within MDE. MDE's Restoration Cleanup Program will now be classified under the Hazardous Waste Program. Mr. Stachiw has known and worked with Mr. Dye for a long time.

Mr. Ted Henry (RAB Member) asked what the Cleanup Program was classified under before the reorganization occurred. Mr. John Fairbank (MDE) stated that it was classified under the Environmental Restoration and Redevelopment Program, which encompassed the State Superfund Programs, and the Brownfield Voluntary Cleanup Program. The Federal Facilities Division felt that the cleanup of hazardous waste sites might fit better under the Hazardous Waste Program.

Mr. Stachiw reminded RAB Members that a Tier 3 Meeting is scheduled for Thursday 5 February 2004. The meeting will be a brainstorming meeting, and will cover Operations and Securities (OPSEC) topics such as the placement of production wells on maps, and the conveyance of information to the general public without violating security issues.

Mr. Henry asked if the Land Use Control Assurance Plan (LUCAP) issue could be resolved before the 5 February 2004 meeting. Mr. Stachiw stated that the issue would be resolved.

Mr. Stachiw stated that the tour of Graces Quarters and Carroll Island went very well. RAB Members who were unable to attend any previous site tours can make arrangements for private tours to get a better feel for site locations and descriptions.

Mr. Stachiw stated that Mr. Randy Cerar (Army Environmental Center (AEC)) would address some questions that were raised at the 4 December 2003 RAB Meeting. Mr. Cerar may return to future RAB Meetings to address further contracting issues.

Mr. Henry asked if a handout of the AEC presentation was provided at the 4 December 2003 RAB Meeting, as he did not have a copy in his records. Mr. Henry asked if a copy of the presentation could be mailed to RAB Members if one was not provided at the meeting. Mr. Stachiw stated that copies were provided, but can be mailed to RAB Members.

Mr. Stachiw stated that Mr. Cerar would address Mr. Henry's question as to how AEC fits into the overall IRP. RAB Members were provided with schematics of organizational structures.

After confirming RAB Members had no further comments, Mr. Stachiw introduced Mr. Cerar to address questions raised by the RAB Members regarding Performance Based Contracts (PBCs).

III. PERFORMANCE-BASED CONTRACTING QUESTIONS

Mr. Cerar stated that he would like to provide an update of current and anticipated activities. Since the 4 December 2003 RAB Meeting, evaluation of the progression of maturity, analytical work, and characterization at various sites has continued. Currently, a list is being created with potential sites to move forward with PBCs at the Aberdeen Area.

Mr. Cerar stated that activities are still in the development stage, but the next steps include evaluating viable work statements and contracting approaches at sites. The AEC will continue to work with the

Installation on the balance of contracting possibilities and approaches. Some sites are not characterized well enough for PBCs, and may be delayed for an undetermined time. Sites with potential for PBCs will move forward with assembling a draft performance work statement. Once sites go forward with PBCs, work will be coordinated with regulatory agencies. The performance work statement will be made available for viewing based on OPSEC restrictions. Work is ongoing.

Mr. Roy Dietz asked if the locations of prospective PBC sites could be disclosed. Mr. Cerar stated that possible sites include solvent contaminated locations in the Aberdeen Area, and Graces Quarters.

Mr. Henry asked if there is a distinction between Aberdeen Areas and Aberdeen solvent sites, or if potential PBC locations are solely solvent sites. Mr. Cerar stated that eight sites in the Aberdeen Area are primarily contaminated with solvents in the groundwater and soils. Such sites could potentially be covered by PBCs.

Mr. Stachiw stated that Aberdeen sites containing solvents are the only potential PBC sites so far. The Aberdeen Area includes three major study areas. Michaelsville Landfill has a remedy in place. The Western Boundary still has unresolved issues with perchlorate. Other Aberdeen Areas (OAA) contains sites affected by solvents and other problems. Of the approximate 15 such sites, some will require no action, and others will require a remedy. Those considerations will be evaluated. Information regarding such concerns and the use of PBCs will be provided. Mr. Stachiw stated that he believes an outcome that all parties are comfortable with can be achieved.

Mr. Henry asked if additional sites are to be considered, other than the eight specific sites within the OAA. Mr. Stachiw stated that sites in the Western Boundary might be identified for PBCs.

Mr. Fairbank asked if Records of Decision (RODs) would be granted before PBCs, or if PBCs would be implemented before RODs. Mr. Stachiw stated Graces Quarters might have a ROD before the contract. At another site, the ROD would be part of the contract.

Mr. Fairbank stated that letters have been received from Army staff recommending that PBCs would be best used after RODs are in place. Mr. Stachiw stated that the best course of action would be to evaluate sites and the intended scope of work to determine if the approach is workable. Current contracts with General Physics (GP) and Weston, including oversight, are not PBCs, but are very close to it. If the PBCs were implemented, as Mr. Stachiw would like, then there would not be a large difference.

Mr. Stachiw suggested that RAB Members maintain vigilance as the contracts are developed. Some questions presented thus far are premature. Concerns or alarms over development of the contract approaches should be raised.

Mr. Dye stated that the main question stemmed from concern expressed by the department head that, if a PBC is in place before a ROD, then the end result may not be conducive to the performance of the contract. Currently, limited resources exist for the program within State and Federal governments. These agencies need assurance at the time of PBC formation that proper resources will be available to complete activities in a timely manner. Mr. Stachiw stated that the IRP shares the same concerns.

Mr. Cerar stated that wording within the ROD is very important and should not be so prescriptive as to limit the number of companies capable of bidding on the contract. The ROD must provide enough flexibility to prevent a limited presentation of technologies. Technologies must work for the site, but not go over specific requirements, and at the same time not be limited.

Mr. Stachiw stated that whether the contract is post- or pre-ROD, appropriate oversight would be required to ensure that work is correctly carried out.

Mr. Cerar stated that with regard to questions presented at the previous meeting, AEC could provide responses in writing. Mr. Cerar plans to attend the next RAB Meeting to address questions about those responses, and to provide an update on contracting activities.

Mr. Cerar displayed a slide depicting the Army environmental organizational structure. The service has a dual track chain-of-command. The secretary track tends to be more administrative, while the other track tends to be more of a traditional soldier staff function. The Assistant Secretary of the Army (ASA), Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health (DASA (ESOH)), and the underlying organization primarily comprise the policy side of the organization. The policy side sets the guidances for actions, and is comprised of mostly civilian workers. The other track, beginning with the Chief of Staff of the Army (CSA) is comprised of Army staff, and manages the Army's budget, and implementation of policies and guidances into procedures. Stemming from the CSA are the Major Commands (MACOMS), the Army Medical Command (MEDCOM), and USACE. A second branch from the CSA is the Assistant Chief of Staff Installation Management (ACSIM) Department under Major General West. Mr. Stachiw and Mr. Cerar both work under Major General West, as the direct chain-of-command from Major General West is through the Installation Management Agency (IMA), Regions, Installations, and DPW/ENV. Mr. Cerar's chain-of-command is from Major General West, through the Director of Environmental Programs, through the AEC. The AEC is basically a field operating activity of the ACSIM.

Mr. Cerar stated that, as a result of Army centralization, certain programs within the Army were centralized, including management, certification, and cleanup. The concept was to manage resources previously scattered throughout several MACOMS under a couple of organizations directly under the Army Chief of Staff. The intention was to reduce overhead, manage resources through the organizational structure, and create less variance in programs.

Mr. Cerar reiterated that the environmental structure runs a dual path. A great deal of interaction occurs between the Director of Environmental Programs and the IMA, as they work closely together. The AEC works very closely with the Regions, Installations, and Base Realignment and Closure (BRAC) Office.

Mr. Cerar stated that the services are designed by Congress to have both military and civilian chains-of-command. Mr. Raymond Fatz is the Deputy Assistant Secretary for ESOH, and is working for a newly appointed ASA for Installations and the Environment. Despite separate chains-of-command, the branches work closely when staff, function, and policy are concerned. Branches from about the mid-level of the organizational structure and up are located at the Pentagon. The lower branches have moved out of the Pentagon, and are now based at other locations, such as Crystal City. The ACSIM and ASA (I&E) are located near each other at the Pentagon.

Mr. Henry asked for a copy of the Army environmental organizational structure slide with all the acronyms spelled out, and all the MACOMs listed out. Mr. Henry also asked for the number and examples of MACOMs that exist. Mr. Cerar stated that a copy could be provided, and that the organization includes about 15 MACOMs. Mr. Fairbank stated that MACOMs no longer have a large role.

Mr. Cerar stated that the MACOMs still fall under three main categories, the Army Materiel Command/Training and Doctrine Command (AMC/TRADOC), US Army Forces Command

(FORSCOM), and the National Guard Bureau. The Army Corps of Engineers is also a MACOM, and the list includes several smaller MACOMS.

Mr. Stachiw stated that the APG used to be under the AMC, then the Test and Evaluation Command (TECOM), and then the Soldier and Biological Chemical Command (SBCCOM). The Installations are now under the command of IMA.

Mr. Henry reiterated that he would like some examples of MACOMs to see where the Installations used to be located relative to the chains-of-command.

Mr. Arlen Crabb (RAB Member) stated that it appears as though centralization of the Army has resulted in the removal of the head from the body. The people who have caused the problems, which the RAB is trying to get cleaned up, are employed in the MACOMs, while the RAB is located on the other side of the structure. There appears to be no control or input. Mr. Cerar stated that responsibility still exists within the MACOMs, and each MACOM typically has an environmental element. Their focus is more on ensuring that the operations within the MACOM are conducted with prevention in mind. The MACOMs still have responsibilities, and as tenants must answer to the Installation for installation and operational issues. Mr. Crabb noted that issues would have to pass up a chain-of-command, and then back down another chain-of-command to be addressed.

Mr. Henry asked if the Installation has pollution prevention responsibilities as well as the MACOMs. Mr. Stachiw stated that the Installation has pollution prevention responsibilities. On the Installation level, for instance when it was previously under AMC, there were still tenants under TRADOC and FORSCOM. One Installation still answers to different chains-of-command, and those activities have their own different levels of environmental support. In some cases, a major subordinate command is also located at an Installation. Mr. Stachiw noted that SBCCOM is not listed on the organizational chart.

Mr. Cerar stated that, prior to the new organizational structure for base operations, infrastructure upgrades, and account operations was implemented, problems occurred with funding distribution. Findings from facility to facility had shown that although facilities were to receive 95 percent of funding for their base operating accounts, the money would get distributed at other locations as it would filter down through the MACOMs. In some instances, funding was only actually occurring at 30 to 40 percent for facility upkeep and installation operations. Concern grew, as Congress continually asked why facilities were not achieving containment, when they had already been supplied with 95 percent of their funding.

Mr. Cerar stated that the concept of the new organizational structure is to ensure that, as money comes down through the ACSIM for base operations and facility operations, it will stay in the account to which it was allocated. The previous disbursement of cleanup funding was a large issue. At current normal base operations, funding will filter down into a large pot of money, to be appropriately distributed.

Mr. Henry asked for the amount of time that the new organizational structure has existed. Mr. Cerar stated that it has been in place since the beginning of fiscal year (FY) 2003.

Mr. Henry asked if the Installation is receiving more money now than it needs to manage operations. Mr. Tim McNamara (Director of DSHE) stated that the new structure gives the Army the ability to choose how to allocate funding. The new structure is a work in progress. Mr. Cerar stated that time will be needed to work out problems that may be encountered with the new organizational structure and funding allocation.

After confirming that no one present had further questions, Mr. Stachiw provided an update on the perchlorate detections in the Aberdeen Area of APG.

IV. PERCHLORATE DETECTIONS UPDATE

Mr. Stachiw displayed a slide depicting the locations of the City of Aberdeen production (CAP) wells, and their associated perchlorate detections found in the 20 January 2004 sampling event. RAB Members should have received the results in tabular form.

Mr. Stachiw stated that detections of less than 0.5 parts per billion (ppb) were found in the finished drinking water, and asked RAB Members if they had any questions.

Mr. Henry asked if the perchlorate detection of 1.4 ppb is associated with CAP well 1 or 3. Mr. Stachiw stated that the detection is associated with well 3. Ms. Glenda Bowling (RAB Member) noted that wells 3 and 9 had the highest detections.

Mr. Stachiw indicated the area of the perchlorate plume on the map. RAB Members will receive copies of the tabular results by either mail or email, but the map results cannot be provided due to OPSEC restrictions.

Mr. Stachiw stated that a request is being forwarded up the chain-of-command for permission to use any type of funding possible to dig up the hot spots of soil perchlorate contamination that were found in the Western Boundary Study Area around identified anomalies. A response has not yet been received.

Ms. Bowling asked if the requests were signed by General Doesberg or sent to him. Mr. Stachiw stated that General Doesberg had recently received a request from the Environmental Protection Agency (EPA) regarding characterizations that have been processed and completed. The information will be made available to RAB Members. General Doesberg had also sent a request himself to the State of Maryland.

Mr. Stachiw informed RAB Members that, in accordance with Department of Defense (DOD) policy, funding would not be authorized unless a cleanup standard has been determined. The IRP has asked if other funding can be authorized, or if someone other than the IRP can provide the remediation. The possibilities are being debated, as it goes beyond the IRP, and may involve treatability, feasibility, or research studies.

Ms. Ruth Ann Young (RAB Member) noted that sampling has been conducted less frequently than in the past, and asked if it was a result of associated costs, or a different rationale. Mr. Stachiw stated that the rationale is that the contamination is not moving quickly. The most important consideration is what is present in the drinking water. Characterization of wells with low to no detections is not conducted as frequently, but will increase if higher detections of perchlorate are found in the drinking water. For example, well 6 is only tested once a month, due to the absence of perchlorate detections. Wells that have shown perchlorate detections are sampled either every week, or every other week. The presence of perchlorate spikes in the wells could next lead to levels in the water supply. In summary, sampling at wells with insignificant detections has been reduced, wells of concern are sampled on a regular basis, and drinking water is sampled as a State requirement.

Mr. Henry asked if any contaminants have been detected on the Installation that have a Risk-Based Concentration (RBC) screening level, but lack a maximum contaminant level (MCL), and therefore do not have a legal driver. Mr. Stachiw stated that 1,1,2,2-tetrachloroethane (TeCA) does not have a MCL.

Mr. Henry asked that RAB Members be provided with a list of compounds that have been found on the Installation, and do not have a legal driver. Mr. Stachiw stated that a list could be provided.

Mr. Fairbank stated that, if a risk assessment were performed for a contaminated site and an elevated risk exists, that risk would then become the cleanup driver. For example, a dispute may ensue between the Army and an agency over what detection concentration is to be used for a compound such as perchlorate, and the Army's prohibition of spending money on completing a remedial investigation (RI) with a risk assessment for perchlorate, because an MCL is not available to put into the risk assessment. If a risk assessment cannot be completed, then a cleanup driver cannot be obtained.

Mr. Henry asked if the product of a risk assessment is close enough to serve as a legal driver. Mr. Fairbank stated that it could. Mr. Henry asked what would occur if the EPA and MDE do not think that enough data on perchlorate is available to do a risk assessment. Mr. Fairbank stated that the Army is the lead agency, and has to complete the risk assessment.

Mr. Henry asked if there are compounds without MCLs that get cleaned up at APG, because the Army is willing to do a risk assessment, and it serves as justification to do the cleanup. Mr. Stachiw stated that there are other considerations at some locations. For example, at O-Field, other compounds with MCLs may be present. The presence of other compounds with MCLs may serve as more of a cleanup driver than compounds such as TeCA, for which a MCL has not been established.

Mr. Henry asked if compounds such as TeCA must still be addressed with regard to clean discharge. Mr. Stachiw stated that it would likely be addressed if elevated concentrations were detected.

After confirming that RAB Members had no further questions, Mr. Stachiw introduced Mr. Don Green (DSHE ECRD Project Officer) to provide an update on the shoreline erosion, and discovery of glassware at the Kings Creek Chemical Disposal Site.

V. KINGS CREEK CHEMICAL DISPOSAL SITE UPDATE

Mr. Green displayed slides depicting the locations of the Bush River Study Area, and the Kings Creek Chemical Disposal Site. The Disposal Site was operational from the 1920s through the 1940s as a disposal area for burning, the detonation of chemical munitions, and shallow burial of glassware.

Mr. Green stated that, in April 2003, a contractor was evaluating sediment sample locations, and discovered exposed glassware along the shoreline and within the eroded undercut bank. A temporary impoundment was constructed to prevent items from falling into Kings Creek. Chemical monitoring was initiated, along with the removal of ordnance fragments along the shoreline.

Mr. Green displayed a photograph of the protective impoundment that was constructed, and indicated where glassware was exposed. A Level B removal of visible glassware within the eroded bank was conducted. Twenty-seven glass bottles and vials were removed and over-packed. Sixteen empty glass bottles and vials, and pieces of broken glassware were removed. Approximately 80 pieces of ordnance scrap along the shoreline were also removed.

Mr. Green displayed a photograph depicting the Level B removal of glassware. The glassware had to be pulled out of the bank.

Mr. Green displayed a photograph depicting construction activities of the shoreline stabilization. Magnetic clearance of the shoreline was conducted to allow the placement of temporary shoreline stabilization to prevent the further erosion of remaining burial sites. Sand and gravel was placed along

the shoreline. The area was demobilized to await the analytical results of the first round of sampling, and to see what the site Health and Safety Plan would require.

Mr. Green stated that, in November and December 2003, a grid was established for the entire area, and test dig operations were conducted to look for other burial sites. Surface water, sediment, and soil samples were collected. The initial soil sampling preliminary results were recently received. Sites 33 and 35 did show nickel, mercury, and arsenic concentrations elevated above background levels. The remainder of the glassware was removed on 16 December 2003, with the recovery of an additional 29 pieces.

Mr. Green displayed a slide depicting the test dig grid, sampling locations, and recent field activities. Only partial analytical results have been received, including a subset from toxicity testing.

Mr. Green displayed and explained a slide depicting the results of chemical agent screening performed on glass bottles that were extracted from the site. The results are measured in micrograms per liter (ug/L) or ppb. For example, the amount 620,000,000 listed on the chart is actually 6.2 percent mustard. Lewisite was detected in some samples. Six bottles tested positive for agents of all the bottles that were collected. As designated under permit, they can be decontaminated at the Chemical Transfer Facility (CTF), and the neutralized end product can be discharged into the sewer system.

Mr. Henry asked if the only detection found above BTAG screening levels was for mercury. Mr. Green stated that mercury concentrations appear to be elevated, but reiterated that the results are preliminary, and were only recently received.

Mr. Green displayed a slide depicting additional field activities. Additional ground-penetrating radar (GPR) will be conducted to further characterize the site, and ensure that all materials have been removed. Remediation of all the pits has been completed, including the original pit location near the shoreline. Samples that did not contain mustard were transferred to the hazardous waste facility for further physical characterization.

Mr. Dietz asked why for the rationale behind the high concentration of traverses at areas E, F, and G, and if the area is a heavily wooded location. Mr. Green stated that the traverses were based on the test digs. Test digs were conducted throughout the grid, without many findings, except in the areas where GPR surveys will be conducted. Evidence of disposal and burn residues was found in those areas.

Mr. Fairbank asked if the area displayed is the same location where small burial pits were discovered during removal action in the 1990s. Mr. Green stated that it is the same area, and noted that the Kings Creek Disposal Site and 30th Street Landfill overlap each other. Attempted road construction to allow for drum and debris removal resulted in the discovery of a series of small shallow disposal pits. An alternate route had to be selected to allow access to the site for drum removal. The Navy SEALs removed a large amount of ordnance from the creek as well.

Mr. Dietz asked if soil samples were collected on one side of the G traverse line. Mr. Green stated that the area on the outer side of traverse G is located outside of the boundary of the landfill. Mr. Jason Ebrite (GP) stated that samples were not taken from the pits themselves, but that samples may have been collected along the G traverse and boundary line when the landfill characterization was conducted. The area on the outside of the G traverse is very close to the 30th Street landfill.

Mr. Green asked if test digs and direct push sampling had been conducted. Mr. Ebrite stated that they were conducted. During the last November to December evolution of testing, the grid was not established

in an effort to search out additional subsurface disposal pits; rather, the grid was developed in the field for the purpose for site control purposes.

Mr. Henry asked how the test digs were conducted in relation to grids, and if one sample was collected in the center. Mr. Ebrite stated that test digs depended upon the characteristics of the grid. A limited amount of time was available, approximately 20 days, to spend on that data collection effort. Once the grid was established, hand magnetic surveying work was conducted to evaluate the extent of contamination within the grid. For instance, if a single large grid had a single large contact, then the contact would be identified. In contrast, if a ubiquitous near surface shallow contact, such as ash or burn residue was detected, then five to ten holes were dug to evaluate if it was a disposal pit. Grid sheets for each of those areas detail the activities conducted and the results of the field activities.

Mr. Henry asked how deeply test digs were conducted. Mr. Ebrite stated that efforts were made to reach either the detected contact or native soils. Mr. Henry asked for the depths reached in the grid area. Mr. Ebrite stated that the depths were very shallow. Very few single large contacts were encountered, consisting of predominantly a continuous blanket of near surface fragments. Some munitions bodies were detected. These findings were located on the eastern to southeastern boundary, where there is a history of munitions disposal. Additional glassware was not found. The only way to find additional glassware would be use a GPR technique to look for disposal areas, or to scan the whole area with a sounding rod technique. Some glassware was found and removed this way during the last removal evolution.

Mr. Henry asked for clarification of a sounding rod. Mr. Ebrite stated that it is similar to a steel rod, and is pressed randomly into the ground to detect the glass by contact. Mr. Green stated that such a method might not appear to be the best idea.

Mr. Ebrite stated that such a method would be impractical for a large area. To clarify, once glassware was recovered, the entire bank was screened using the sounding rod approach, leading to the discovery of one of the largest bottles.

Mr. Henry asked how long the turnaround time would be for the GPR data, and when the GPR would be conducted. Mr. Green stated that the GPR would be conducted in February, depending on snow events. Snow must melt before the GPR can be done. The results would be received almost instantaneously, and would indicate if there are any features present. The magnetic survey has limited utility in this area, due to the large amount of metal present. Some areas contain so much metal that vegetation will not grow.

Mr. Henry asked how the glassware was initially discovered on the bank. Mr. Green stated that Mr. Ebrite was looking for sediment sampling sites for the next sampling event, and saw the glassware in the bank.

Mr. Henry asked if any type of map exists that lays out where suspected disposal dumps, of any kind along shorelines, are located for the entire Installation. Mr. Stachiw stated that such information is not contained within a single map. It could be possible to make a map. Other Edgewood Areas (OEA) may not have a strong delineation established for the size of the disposal pits. Landfill locations are known for certain. However, recent discoveries have been surprises, and records do not exist for them. Those discoveries are generally small, about the area of a table, and not on the scale of landfills. They usually appear as a result of erosion, or shoreline erosion.

Mr. Henry stated that, even in areas where a dump is suspected but there is no delineation, hashed lines could be used to show approximate boundaries. A map that displays suspected disposal dumps at APG is needed to discuss what the IRP can do, and which ones would need shoreline inspection. This issue

might fall into ordnance and munitions response issues, and exemptions with DOD. The IRP needs to discuss how to start looking at the shoreline, and where efforts would be needed periodically, instead of accidentally discovering items when collecting samples.

Mr. Stachiw agreed with Mr. Henry. The effects of institutional controls, unknown potentials, and other issues on the construction of such a map would have to be determined. There are other options available as well. Ms. Ruth Golding (DSHE ECRD Project Officer) is generating an internal comprehensive report for Edgewood Areas that indicates potential locations for disposal areas near shorelines, and which shorelines are at higher risk for erosion. The identified areas will be evaluated in a restoration context to determine a path forward.

Mr. Henry stated that he would like to schedule a presentation of that information for a RAB Meeting, as it presents a clear risk to the public. Time and again stories circulate about people finding ordnance related items. Mr. Stachiw stated that contractors and project officers have been walking the shoreline themselves looking for items that may have been uncovered.

Mr. Henry suggested formalizing the information. Mr. Stachiw stated that the issue would need further discussion and evaluation.

Mr. Dye asked if there is any way to date what era the glassware came from at the Kings Creek site. Mr. Green stated that the items appear to be from the 1930s.

Mr. Dye asked if there might have been an event that may have taken place at the surface. Mr. Green stated that the area was apparently used as a range area at that time, and served as a predecessor to the O-Field disposal site. According to recorded history, the area was a site for surface munitions burning and detonation. Individuals who were conducting open detonations and burnings were most likely surprised that ten years previously items like glassware were buried there. This find is the only one to date where bottles were neatly stacked on pallets, and then covered over.

VI. INTERMISSION

At 8:00 p.m., upon the conclusion of the Kings Creek Chemical Disposal Site Update, Mr. Stachiw announced a brief intermission. At 8:20 p.m., the meeting resumed.

VII. O-FIELD STUDY AREA UPDATE

Ms. Cindy Powels (DSHE ECRD Project Officer) displayed a slide depicting the location of O-Field at APG. The O-Field area is located in the Edgewood Area of APG. There are four operable units (OU).

Old O-Field (OU1 and OU2)

Ms. Powels indicated the location of the Old O-Field area. The 4.5 acre landfill was used during the World War II time frame for disposal of chemical munitions, other hazardous wastes, and potentially contaminated equipment. As a result, the groundwater downgradient of the landfill, between the landfill and Watson Creek, is contaminated with volatile organic compounds (VOCs), agent breakdown products, metals, and small amounts of explosives.

Ms. Powels stated that OU1 is comprised of contaminated groundwater that migrates towards Watson Creek. OU2 is the source area. OU3 consists of surface water at Watson Creek, and sediments contaminated primarily with metals, and small amounts of pesticides such as DDT. OU4 is New O-Field, which was used after Old O-Field closed. New O-Field contains some waste trenches, but was used primarily for burning and detonation disposal. A large marsh area at New O-field was used as a push-out area for disposal of ash.

Ms. Powels stated that everything not related to Old O-Field is included under New O-Field. Basically, OU4 includes New O-Field, and everything else in the surrounding area. Because concerns were raised during the RI that items in surrounding areas might be missed, those surrounding areas will be examined.

Ms. Powels stated that OU1 and OU2 would be presented together. An Interim ROD for OU1 was signed in 1991 for the treatment of contaminated groundwater migrating from Old O-Field to Watson Creek, and the installation of an extraction and treatment system. The treatment system has been operating since 1995. The OU2 Interim ROD was signed in 1994, specifying the installation of a sand cover over the landfill.

Ms. Powels displayed slides detailing Old O-Field operations and maintenance (O&M). Topics to be covered for Old O-Field would include O&M, the Optimization and Efficiency Study, recommended modifications, and future efforts. During the calendar year (CY) 2003, approximately 12.2 million gallons of groundwater were treated, a 28 percent increase from CY2002. The increase is primarily due to higher precipitation levels during CY2003. No discharge violations occurred during CY2003.

Ms. Powels stated that a planned, preventative maintenance shutdown occurred for approximately two weeks in November 2002. Since then, only minor maintenance shutdowns, typically less than one day in duration, have occurred. Due to the large amount of precipitation, attempts have been made to keep maintenance shutdowns to a minimum, to allow continued pumping of groundwater. General Physics Corporation (GP) assumed O&M responsibilities as of February 2003.

Mr. Greg Kappler (RAB Member) asked for the reason for the switch in contractors. Ms. Powels stated that the switch was contractually in DSHE's best interest to reduce costs. It is easier to motivate GP under a firm fixed price contract. Results have been successful, and costs have been reduced.

Ms. Powels displayed a slide depicting the layout of containment pits and storage tanks at the Old O-Field Groundwater Treatment Facility (GWTF). An influent overflow from the influent tanks, and the containment pit occurred on 11 January 2004. The four influent tanks are identified as T1, T2, T10, and T11. Groundwater first flows into tank T2, then through a process line at a height of about 30 inches to T1, and equalizes. Tanks T10 and T11 were meant for intermediate storage, and were never intended for influent storage. The tanks are now used for influent storage, and the water from T1 equalizes through the sludge lines into T10 and T11.

Ms. Powels stated that occasionally problems with water level readings occur due to changes in barometric pressure, and extreme cold temperatures. Readings jump up and down, and are inaccurate. On Saturday, 10 January 2004, operators received a high level alarm for tank T1, even though insufficient water had been pumped from the wellfield to fill up T1. The operators responded to the alarm as required. Operators blew air through the lines to ensure that no clogs had occurred, and that tanks were equalizing. Everything appeared normal upon inspection of the tanks and lines. When operators arrived at the GWTF on Sunday evening, 11 January 2004, water was overflowing from the containment pit for T1 and T2. They immediately shut off the groundwater well pumps and stopped the overflow. No further alarms had occurred.

Mr. Henry asked for another explanation of tanks T1, T2, T10, and T11. Ms. Powels stated that T10 and T11 were intended to be intermediate tanks for the treatment process. Tanks T1 and T2 were intended for influent storage. However, to allow for pumping through the weekend without working around the clock, groundwater is pumped from T1 and T2 through to T10 and T11, creating four influent storage tanks. The wellfield is pumped at an approximate rate of 30 gallons per minute (gpm). Previous pump rates

varied between 15 to 20 gpm, but current rates vary from 25 to 30 gpm. The GWTF can process extracted groundwater at up to 45 gpm.

Mr. Kappler asked how many gallons each storage tank can hold. Ms. Powels stated that the tanks hold 25,000 gallons each.

Ms. Powels stated that there were no more high level alarms prior to the overflow. It appeared that there was a blockage in the process line between tanks T1 and T2, as they did not equalize. Water most likely spilled out from T2, causing the overflow. A sludge line between T1 and T2 also failed. Approximately 46,000 gallons of untreated groundwater overflowed from the containment pit, and discharged to a stormwater runoff drain, then passed through a rock outfall into the Gunpowder River.

Mr. Crabb asked if the sludge line may have been frozen, and how it could fail. Ms. Powels stated that it most likely froze. The old insulation may have gotten wet, causing a decrease in its ability to insulate. The insulation has been replaced with a new substance that does not lose its effectiveness when it gets wet. The heat tracing system has been redone, and the old piping system has been completely replaced.

Ms. Powels displayed more slides listing O&M activities at Old O-Field. All notification requirements regarding the overflow were fulfilled.

Ms. Powels displayed a table detailing the discharge limits and influent concentrations of metals species. The influent and effluent are currently sampled twice a month. Sampling results from December 2003 and 7 January 2004 are listed in the table. Arsenic and zinc concentrations in the influent exceeded the 30-day average discharge limit established for the effluent, but the concentrations were less than the one-day maximum discharge limit. Iron exceeded both the 30-day and one-day limits.

Ms. Powels displayed a table detailing the discharge limits and influent concentrations of volatile organics (VOCs), chemical warfare materiel (CWM) (Mustard) degradation products, and water quality parameters. Total VOCs in the influent exceeded the one-day maximum discharge limit. GWTF effluent is not allowed to exceed 100 mg/L of total VOCs at any time. CWM (Mustard) degradation products include thiodiglycol, 1,4-dithiane, and 1,4-oxathiane. No limits have been established for CWM degradation products. The GWTF is required to use best available technology to treat these chemicals.

Mr. Henry asked if the compounds listed are the only compounds for which analyses are conducted. Ms. Powels stated that the compounds listed are the target analytes, and the analyses conducted also give concentrations for individual VOCs. An email sent out prior to the RAB Meeting provided a list of individual VOCs. Mr. Henry stated that he had not yet reviewed the last email Ms. Powels had sent.

Ms. Powels displayed more slides listing O&M activities at Old O-Field. Corrective measures to reduce the likelihood of future overflows are underway. The piping, insulation, and heat tracing were replaced in all of the containment pits. Completion of the replacement was planned for the end of the week, but will not be finished until 4 February 2004. A portion of the containment pits between the six storage tanks will be removed, to allow equalization between the containment pits, creating three times the current containment capability in the event of an overflow.

Mr. Kappler asked for the volume of the two containment pits combined. Ms. Powels stated that one pit can hold the contents of one tank, and two pits will hold two tanks. The original facility design assumes failure of more than one tank at a time would not occur.

Mr. Kappler asked if a notification process is followed when an alarm occurs over the weekend. Ms. Powels stated that a notification process is followed if an alarm occurs. For instance, alarms are set currently based on water levels in the tanks. Operators will be called if an alarm sounds, and they must respond. All events are recorded, to allow for review and analysis of when the alarms sounded, calls went out, and operators responded.

Mr. Kappler asked if there are any alarm sensors in the containment pits. Ms. Powels stated that sensors would be installed in the pits as part of the corrective measures that are underway. Mr. Kappler asked if the alarm would also shut down the pumping of the wellfield. Ms. Powels stated that a proposal has been made. A sensor will be added to the containment pit at a level high enough to be unaffected by rainfall, but still low enough to trigger an alarm far in advance of an overflow. The alarm would then trigger the wellfield to shut down. Telephones at the site are not always reliable, and it is important to ensure that the alarms will shut down the wellfield.

Mr. Kappler asked for the amount of rainwater present in the containment pits at any given time. Ms. Powels stated that attempts are made to keep the pits clear of rainwater, and process the water into the plant. There are also procedures to test the rainwater, and discharge it if it is uncontaminated.

Mr. Frank Vavra (EPA) asked if the overflow could have been avoided if the tanks and containments were linked as proposed. Ms. Powels stated that there would not have been an overflow if all three pits had been connected, providing three tanks-worth of containment volume.

Mr. Kappler asked if it was possible to calculate the approximate amount of water that had overflowed. Ms. Powels stated that approximately 46,000 gallons had overflowed. Calculations are hard to make due to uncertain water levels in the tanks. Upon arrival at the GWTF, water level sensors were reporting a wide variety of readings, due to fluctuations attributed to barometric pressure impacts. The amount of water processed through the plant had to be evaluated. Water levels were uncertain in T10 and T11, and the approximate amount of overflow is a rough estimate.

Ms. Powels stated that a portion of the containment pit walls will be removed to connect the pits, level sensors will be installed in the pits, and the alarm system will be connected to the control system to shut off the wellfield. Consideration will be given to installing new or supplemental level sensors in the storage tanks. Operators will be notified by the alarm system if the presence of well water in the containment pits does not shut down the wellfield.

Mr. Henry asked if the EPA Biological Technical Advisory Group (BTAG) evaluates data for discharged compounds, discharge amount, and the necessity of further observations in events where VOCs discharged reach high levels, such as trichloroethene levels of 500 ppb. Mr. Vavra stated that he did not request an evaluation. Mr. Vavra explained that he is responsible for those decisions, with regard to the overflow. Concentration amounts were evaluated, and compounds were in a dissolved phase. The water was not likely to cause a surface problem. Other problems have occurred during the wet season, where volumes of water had bypassed the system, because it did not have the capacity to keep up with the water volume. The system is not perfect, but does a good job with water capture. In that perspective, over a period of weeks, a volume of water in the range on 40,000 gallons may not have been captured.

Mr. Henry asked if there are times during the wet season when the discharge is disregarded. Mr. Vavra stated that he was not referring to the effluent discharge from the plant, but to the capture system. Ms. Powels stated that if the wellfield cannot keep up with the water volume, any water bypassing the extraction system could still be recaptured up to a certain period of time. However, if too long of a period has passed, then the water may reach Watson Creek.

Mr. Vavra stated that, with regard to the overall perspective, the overflow was a one-day issue versus 365 days a year, and is not anticipated to be a problem. Ms. Powels stated that the overflow passed through the same outfall that drains for the sprinkler system at the permeable infiltration unit (PIU) discharges to. The sprinkler system line is drained back to the outfall for discharge. Rocks had to be installed at the outfall to add dissolved oxygen to the discharged water containing low dissolved oxygen.

Ms. Powels stated that the completion schedule for the installation of piping, heat tracing, and insulation in the containment pits will be delayed for a week due to weather. The installation of containment pit level sensors, and back up level sensors will be completed in February 2004. Containment pit modification for volume equalization is scheduled for completion in March 2004.

Ms. Powels stated that sediment was cleaned out of all four influent tanks. Sediment buildup was likely a contributing factor to the overflow. Sludge was also removed from the tank in the GWTF that allows for the settling and thickening of sludge from the treatment process. Trucks will be brought in approximately twice a year for sediment and sludge removal.

Ms. Powels displayed a slide containing photographs of sediment buildup in the storage tanks. Tanks T1 and T2 are located on the right and left sides of the photograph depicting sludge line failure between T1 and T2, respectively. The failed sludge line is at the bottom of the photograph. The location of the process line was indicated. The right-hand photograph depicts sediment buildup in tank T2. The bottom photograph depicts the new process line and sludge line piping, with new heat tracing.

Mr. Fairbank asked for the temperature rating for the newly installed heat tracing. Ms. Powels stated that it is rated for 20 degrees below zero. Mr. Vavra stated that piping is being installed at higher levels where rainwater won't affect it. Ms. Powels stated that the insulation would not lose its effectiveness if it gets wet. She noted that the sludge lines would be placed at the same level, at the bottom of the tanks. Tanks T10 and T11 will equalize through a process line at a higher elevation, instead of through the sludge lines. Ms. Powels pointed out that a slight drop in the height of the piping occurs as it runs into the treatment plant.

Mr. Fairbank asked for the name and a description of the new insulation. Ms. Karen Thorpe (GP) stated that the insulation is called Tech Lite. It is similar to plastic foam, and is wrapped around the pipe and tied down. The old insulation is similar to the fiberglass insulation that would be found in the walls of houses. The old insulation was soft fiberglass on the inside and had an aluminum foil type covering around it. It had degraded after being wet and exposed to the environment for an extended period of time. The cold weather from last winter might have accelerated the degradation. The new insulation is a single solid piece of foam that can be wrapped around the pipe. It is highly rated, and should be very resistant to the weather conditions.

Mr. Vavra stated that another positive corrective measure includes the investigation and calibration of the system once it has been installed. The level measurement system operates by pressure, and there have been sporadic problems with it during the winter. Ms. Powels stated that problems occasionally occur during the summer as well.

Mr. Kappler asked if the heat trace is manually turned on, and what the procedure is for ensuring that it is turned on while operators are gone for the weekend. Ms. Powels stated that it is turned on manually at the start of the cold weather conditions.

Mr. Kappler asked if there is a procedure to check the temperature, and how operators would know that the heat trace is on. Ms. Thorpe stated that an inspection is conducted in the fall before the system is turned on. Normally, there are no associated problems. However, problems with freezing have occurred when the temperature drops below 20 degrees for an extended period of time. At this point, with the new installation, the system is tested as it is installed, to ensure that it is operational. Ms. Powels stated that the corrective measures would also provide for the wellfield to be turned off if problems occur.

Mr. Fairbank asked if onsite power would be available in the event that the power was lost and the well pumps shut off. Ms. Powels stated that a generator and compressor to run the pumps were located onsite. Mr. Fairbank asked how the heat trace would be hooked up. Ms. Powels stated that the generator would also power the heat trace. However, the generator could eventually run out of fuel.

Mr. Henry asked if the pipes were insulated and heated before the replacement began. Ms. Powels confirmed that the pipes were heat traced and insulated, but added that the plant is eight years old, and things are starting to deteriorate. Planning is needed to anticipate possible problems associated with age.

Mr. Henry asked if a thorough walk-through has been performed to evaluate the status of items not used as they were designed for, and how often a walk-through occurs. Ms. Powels stated that walk-throughs are constantly done. In-depth reviews have been performed with regard to the efficiency studies. Efforts are ongoing to make the plant more efficient, and to plan for capital improvements funding. Replacement of some can be anticipated, but others are not so simple. The need to replace the heat trace was unexpected.

Ms. Powels displayed more slides detailing Old O-Field O&M activities. An ultraviolet-oxidation (UV-OX) system is used to destroy agent breakdown products, and the majority of VOCs. The old 60-kilowatt system was replaced with a new 90-kilowatt unit in September 2001. The new system included a one-year performance warranty, which required the quarterly average VOC destruction to be greater than or equal to 60 percent, with no sampling events falling below 50 percent total destruction of VOCs. The new UV-OX unit was not meeting that requirement, and only reaching an average VOC destruction of 39 percent. The vendor reinspected the unit, and found no problems with the manner in which it was run. They suggested moving the peroxide feed to enable better mixing, followed by increasing the peroxide rate to achieve a better performance. The suggestion was successful, and the approximate total VOC destruction is currently 71 to 87 percent.

Ms. Powels reported that in February 2003, two UV lamps containing mercury vapor failed, and caused water to run onto the floor in the plant. In May 2003, another UV lamp failed. The problem is not unique to APG, as there have been problems with the vendor's bulbs at other locations. Work is ongoing with the supplier to get the problem resolved. A bulb has not failed since May 2003, but bulb life has been varied. Ms. Powels noted that the bulb life is guaranteed up to 3,000 hours. Replacement is free of charge if the bulbs should fail below 300 hours of use, and prorated for failure between 300 and 3,000 hours. The lamps are proprietary to the system, and cannot be provided by another vendor.

Ms. Powels reported that the air stripper was taken off-line, since it was not performing well for the associated operations costs. The new UV-OX unit is functioning so well that the air stripper was not needed for operation to meet discharge requirements. As a result, O&M costs were reduced.

Ms. Powels stated that weather impacts were significant for CY2003, and the year had consisted of extremes. The plant was shut down in February 2003 for four days due to approximately three feet of snow. Tropical Storm Isabel resulted in plant shutdown for five days, due to an electrical outage and minor repairs, as well as storm preparations and cleanup. A large amount of preparation was done prior

to the storm, and helped to keep damages to a minimal. In addition to these events, precipitation in 2003 reached record levels.

Ms. Powels stated that the high amount of precipitation, primarily during the latter half of 2003, resulted in the shut down of certain wells in the northern and southern portions of the wellfield to allow for increased pumping rates at wells in the central portion of the wellfield affected by higher conductivity and contaminant concentrations. The use of fewer wells resulted in reduced maintenance. As wells are turned on and off, iron falls out of solution and clogs pipes.

Ms. Powels displayed slides depicting the locations of groundwater extraction and monitoring wells in the wellfield. Green colored wells are currently pumping, and the wells shut down in the northern and southern portions are red. It appears that the northern wells may have been pulling groundwater northward, as contaminant levels in that vicinity have decreased since their shutdown. Evaluation of that phenomenon needs to be conducted.

Ms. Powels stated that monthly groundwater gradients between the extraction wells and Watson Creek have been relatively flat, despite the high levels of precipitation. The hydraulic gradient between the extraction system and Watson Creek has ranged from .002 to .008 feet per foot (ft/ft). In previous years, seasonal impacts from the Phragmites marsh located to the south have been observed. During dry summers, the marsh would pull groundwater in a southern direction. A sharp gradient was not observed extending toward the marsh during the Summer 2003. An impact has been observed from the recharge area located to the west of the landfill and wellfield.

Ms. Powels provided a brief summary of the 2003 quarterly groundwater sampling results. Wells located to the west and south of the landfill were below quantitation limits (BQL) for VOCs and mustard degradation products. Those wells included OF-81, OF-82, OF-83, OF-75, OF-65 and MW-01. The wells located to the north of the PIU, including OF-72, OF-74, OF-43, and MW-02, were either BQL, or decreased in comparison to 2002 sampling results for VOCs and mustard degradation products. Wells to the east of the main plume areas remained relatively stable, or increased in concentration.

Ms. Powels displayed slides depicting subsidence at the PIU. Subsidence occurred at two locations of the PIU in 2003. The subsidence was not unexpected, though it was the first time it had occurred. Area 1 was large, with an extent of 30 feet by 15 feet, and up to 2 feet deep. Area 2 covered a small area, and was only a few inches deep. Area 2 will be monitored, and is not scheduled for repair at this point. The subsidence occurred in March 2003, following the 3 feet of snow that fell in February 2003.

Ms. Powels displayed a short video of repair work at subsidence Area 1. Low ground pressure equipment was used for the repairs. Ms. Powels indicated the location of the subsidence area. Ms. Powels displayed a slide containing photographs of subsidence Area 1 and low ground pressure equipment used for the repair effort. The actual depth of subsidence in Area 1 became apparent once the gravel cover and geotextile fabric were removed from the subsided area.

Ms. Powels displayed more photographs of repair work at the subsidence areas. Approximately 50 tons of sand were needed to fill in and compact the area. The separation fabric between the sand and gravel prevents intermixing. The fabric was secured, and 60 tons of gravel were used for the gravel cover.

Mr. Kappler asked if the original gravel from the PIU was disposed of, or reused for the repair. Ms. Powels stated that the gravel was reused. As part of the previous contract, additional sand, gravel, and geotextile materials were purchased, in accordance with the project's materials specifications, for use in the event that repairs to the PIU became necessary.

Ms. Powels stated that subsidence at the PIU recurred in late May 2003 at Area 1. Air monitoring was conducted, with no detections of chemical agents reported. Repairs were made in December 2003. A review of historical records for the disposal site has shown that some relatively large mustard tanks were apparently disposed of in that area. Continued weight and pressure on those tanks may have caused them to collapse. The PIU system is working as it was designed, and is filling in the gaps as they occur. The sprinkler system was also tested twice during 2003.

Ms. Powels displayed a slide depicting a new subsidence area at the PIU. Subsidence at Area 3 occurred in January 2004, and was approximately seven by nine feet, by two and a half feet deep. Air monitoring will be conducted when the weather warms, and repairs are scheduled for the Spring 2004. The area of subsidence will be visually monitored until the repairs are made.

Mr. Crabb asked if the contents of that area are known. Ms. Powels stated that the subsidence may have occurred in the area of a disposal pit, but the actual contents are uncertain. No items in the historical record seem to stand out as a possible cause. At Area 1, the presence of the mustard tanks was known, as depicted in the historical records. The tanks could be seen on the surface before the landfill was covered.

Mr. Fairbank asked if disposal of drums might have occurred in the area of the newest subsidence. Ms. Powels stated that the drums might have been located closer to the fence line. The area will be monitored and repaired in the Spring 2004.

Mr. Stachiw stated that it is gratifying to see that the PIU works as it was designed. The installation of a firm, fixed cap would have resulted in catastrophic failure at this site, and been very hard to repair. Expected events are occurring, and are easily repaired.

Mr. Henry asked if the contractor brings in low ground pressure equipment, or if it is owned by APG. Ms. Powels stated that GP brings in the equipment, and can mobilize quickly. Mr. Henry noted that there is a legitimate chance that subsidence could become a regular occurrence. Mobilization of such equipment once or twice a year would be more cost-effective than responding to each subsidence incident individually. The occurrence of events in the long-term will prove interesting.

Mr. Kappler asked if there are negative aspects or concerns in delaying repairs of the subsided areas. Ms. Powels stated that there are no concerns, and the cover material is thick. The cover is almost 6 to 8 feet deep in some areas. The cover material is still on the site, but in the subsided areas, has sunk down to fill voids at lower elevations. Ms. Powels reminded the RAB Members that air monitoring is conducted for chemical agents.

Ms. Powels stated that during construction of the landfill, piping was extended down to the original surface of the landfill to allow for the placement of metal coupons, and the measurement of naturally occurring bio-corrosion. These pipes are still in place, and may be pulled out. One of the pipes is located in the most recently subsided area of the PIU.

Mr. Henry asked if the AEC is conducting corrosion studies. Mr. Stachiw stated that a research group might be conducting studies with regard to lifespan of UXO. Ms. Powels stated that some of the reports have been received, and a decision was made not to pursue bio-corrosion based on AEC's study stating that some compounds could potentially take 100 years or more to degrade.

Mr. Henry asked if it would be possible, should the need arise, to install a similar corrosion pipe again. Ms. Powels stated that the corrosion pipe was basically a PVC pipe, and could be installed, provided

attention is paid to the locations of existing items, preventing disruption to current systems, and preventing damage to the geogrid system. The geogrid system is located underneath three of the five feet of sand to provide stability. The passage of sand through the geogrid system to fill a void in the subsurface creates a hole at the surface, but provides stability to the cover system. Piping cannot be installed directly into the landfill.

Ms. Powels displayed a slide identifying aspects of the Old O-Field Optimization and Efficiency Study. Efforts are ongoing to optimize and improve efficiency. In the past year, GP has been working to identify areas of improvement, and modifications that would reduce costs. The entire process, including the well field, landfill, GWTF, treatment system, monitoring, sampling, labor, and materials are being evaluated for improvements.

Ms. Powels displayed several slides listing recommended modifications for Old O-Field. The reduction of National Pollutant Discharge Elimination System (NPDES) sampling frequency is recommended from twice a month to once a month. MDE concurs with the recommendation, but it must be implemented through the Explanation of Significant Differences (ESD). MDE has also concurred with the recommendation to eliminate the acute toxicity testing of the effluent, and maintain the short-term chronic toxicity testing.

Ms. Powels stated that recommendations were made to reduce the frequency of groundwater monitoring well sampling. Currently, the wells are sampled quarterly. Recommendations were made to reduce the number of wells sampled, and the frequency to semi-annually. Analysis for VOCs, mustard degradation products, and metals would be analyzed semi-annually. Data validation will no longer be conducted. Analysis for radiation products and nerve agent degradation products is recommended for every other year. Contaminant levels do not fluctuate enough to warrant the high frequency of current sampling, especially in the contaminated area.

Mr. Henry noted that Ms. Powels had mentioned a year-to-year comparison in 2001, and asked how concentrations had fluctuated over the past eight years. Mr. Henry recalls investigative sampling involving detections of thiodiglycol at 1 million ppb. Current data shows thiodiglycol detections to be around 2,000 ppb. Ms. Powels stated that concentrations fluctuate up and down. A previous contractor believed that there might be a trend, but analysis of the data has shown fluctuations from year to year. There has not been a large change in the overall contaminant trend. GP is conducting a more statistical analysis for the Efficiency Study.

Ms. Thorpe stated that, with regard to metals, concentrations are fairly stable. Trend analyses were made on a well-by-well basis. Most areas are experiencing either downward or stable trends. In general, two areas appear to have increasing trends, but for the most part, trends have been fairly stable. Ms. Powels stated that recent levels of 1,4-dithiane and 1,4-oxathiane appear to be higher than thiodiglycol levels.

Mr. Henry asked if explosive compounds have been found. Ms. Powels stated that explosives are not analyzed often, and the information could be provided. There may have been a detection of 2,4,6-trinitrotoluene, but explosives are not regularly detected.

Mr. Dietz asked if changes in the surface would result in contaminant detection changes in sampling results. Ms. Powels stated that a change could be seen. Mr. Dietz asked if it would be appropriate to change the frequency of sampling with subsidence events occurring on the surface. Ms. Powels stated that constituents are continually degrading, and, over the years, detections will spike and fade out. For a period of time, thiodiglycol was observed in some wells at extremely high concentrations. Thiodiglycol concentrations have decreased since then. The subsidence events might not make a difference in the

contaminant fluctuations. In 1953, fluctuations in groundwater contamination were evident after 1,000 barrels of decontaminating agent non-corrosive (DANC) had been dumped. Metals analysis of tree rings in a Tree Core Study revealed evidence of contamination waves, and was most likely indicative of events at the landfill. Ms. Powels informed Ms. Thorpe that the Efficiency Study should include an analysis of how subsidence could affect the groundwater issue.

Ms. Thorpe stated that a previous calculation was completed to evaluate the groundwater flow and rate of transport in relation to Hurricane Floyd. Calculations that GP has performed reinforce the previous calculation. If the first subsidence had resulted in a release of contamination, evidence of the contamination would not be apparent at the other side of the extraction well system for a time frame of 4 months to 1 year. Some concentrations currently observed, such as TeCA, are so high upgradient of the extraction wells that the effects of subsidence may not even register. Sampling events scheduled semi-annually would still provide a good representation of the groundwater conditions.

Ms. Powels stated that the GWTF has a large capacity to treat higher concentrations that may occur. The UV/OX system works well with destroying VOCs and mustard degradation products. Three carbon vessels follow the UV/OX system, and breakthrough would be observed before contamination could pass through. The influent and effluent are both sampled, and changes should be apparent. In addition, the biomonitoring fish would respond to show evidence of metals spikes.

Mr. Henry asked if the classes of compounds sampled for were dictated by detections found in the RI, and then incorporated into the ROD. Mr. Henry asked if thought has been given to conducting a one-time analysis to gain a broader sweep, and to see if any releases or changes in compounds may have occurred. Ms. Powels stated that, under the current plan, radiological compounds, explosives, and nerve agent degradation products are analyzed for once a year. The current plan includes quarterly analyses of samples for VOCs, and annual analyses of metals. Analyses are not conducted for pesticides, as they have never been detected.

Mr. Vavra asked if Mr. Henry is suggesting that efforts be made to search for items that have not been identified. Mr. Henry questioned if there were any major types of compounds that are not analyzed for, such as semi-volatile organic compounds (SVOCs). Mr. Henry was interested to know if any compounds analyzed for in the RI have not been since monitored. Mr. Henry stated his belief that it might be wise to schedule a sampling check at the 10-year mark of the GWTF, and ensure that those compounds are still not present. Ms. Powels stated that Ms. Thorpe could look into the issue. Unknown compounds may be present.

Ms. Powels displayed more slides listing recommended modifications for Old O-Field. The elimination of the air stripper from the organics treatment processes was recommended and completed. The annual characterization of process wastes, such as sludge, is recommended. Groundwater extraction should be focused on the areas of highest contamination and hydraulic conductivity, which coincide. A prospective goal may include maintaining a flat gradient, with slight downward gradients from Watson Creek, without pumping Watson Creek water.

Ms. Powels stated that there are plans to automate the treatment plant to reduce costs. The automation effort would involve plant modifications to support the reduction of one labor shift. Considerations would include automation of the discharge valve and lime feed system, and installing additional alarms. Currently, well field maintenance is conducted during the day shift, and maintenance issues are dealt with on the night shift. Adjustments would need to be made to incorporate all maintenance activities into two shifts.

Ms. Powels displayed a slide listing ongoing and future efforts at Old O-Field. A draft ESD for OU2 has been prepared. Originally, the OU2 ROD required subsurface air monitoring of the PIU. Real time ambient air monitoring has been conducted instead. The ESD will address the sprinkler system, which was planned to automatically activate in the event of air alarm activation. The sprinkler system should inundate the PIU, and is currently manually activated.

Ms. Powels stated that a subsurface trickling system had been installed to allow a treatment solution to be applied to the subsurface, but limitations have been discovered. Treatment should occur subsurface, as surface treatment is not environmentally safe. Subsurface treatment would also be more beneficial in the winter, when the ground could freeze.

Ms. Powels stated that a risk analysis has been completed, and work is ongoing with the State and EPA. APG has shown that an evaporative release of compounds is not as large an issue as previously thought. Subsurface mustard or phosgene will not evaporate within the landfill without degradation occurring. The main concern is for an explosion event, and the appropriate associated monitoring protocol. For example, phosgene might present a greater issue than mustard and nerve agents, but current monitoring will not detect phosgene. Of the three current monitoring stations, one station has two Miniature Chemical Agent Monitoring Systems (MINICAMS), one for mustard, and the other for V and G agents. Two other monitoring stations have older Chemical Agent Monitoring Systems (CAMS), which are currently being replaced. The old CAMS will be replaced with MINICAMS, but it might be better to equip for phosgene instead. If MINICAMS can be used for phosgene, they would just be set up in a different way.

Mr. Vavra stated that previous discussions noted that phosgene is the only compound of concern that is lighter than air, where an explosion could release enough compressed gas to force a plume to be expelled. This scenario is unlikely to occur, as phosgene was estimated to comprise less than five percent of the materials disposed at Old O-Field. A body of evidence is being built based on air monitoring that shows that release of mustard gas does not occur. The idea of a wet layer is to hydrolyze mustard products, which are heavier than air. A concern still exists that if something triggers an explosion that releases a canister of phosgene, and it is forced to the surface, phosgene is the only compound that would travel outward. Investigations are ongoing. Ms. Powels stated that efforts would be made to move ESD along to address the potential need to monitor for phosgene.

Ms. Powels stated that additional opportunities would be evaluated to improve efficiency and reduce costs. Other technologies will be evaluated for potential implementation at Old O-field. An associated study has been funded, and is underway.

Watson Creek (OU3)

Ms. Powels displayed a slide depicting the location of Watson Creek (OU3). A ROD signed in 1997, called for the limited action/long-term monitoring and institutional controls as a result of metals contamination in sediment.

Ms. Powels displayed slides listing fourth year results at Watson Creek. Institutional controls remained in place during the fourth year. An increasing trend was not observed in metals concentrations in sediment, and no significant storm events occurred. Hurricane Isabel occurred during the fifth year, and resulted in sign damage and replacement.

Ms. Powels stated that the level of mercury in Watson Creek fish relative to surrounding areas in the upper Bay is uncertain. A possible explanation for the uncertainty is that APG conducted whole body analysis, whereas the database for the upper Bay contains fillet analysis. APG evaluation was concerned

with a food chain-wide issue, while the upper Bay studies were concerned with health issues. Mercury levels in fish are a regional problem, not specific to APG, and have resulted in consumption advisories. Higher trophic level fish, such as bass, have levels that exceed the No Adverse Effects Levels (NOAELs), and approach the Lowest Observed Adverse Effects Levels (LOAELs). Mr. Henry asked if comparative samples would be collected with regard to the database issue. Ms. Powels stated that comparative samples would be collected.

Ms. Powels stated that the estimated mercury intake by piscivorous (fish-eating) wildlife might exceed NOAELs, but likely does not exceed LOAELs. Eagles would not present as large an issue as blue herons, due differences in foraging areas.

Ms. Powels displayed a slide that depicted fifth year actions at Watson Creek. Sediment samples were collected before and after Hurricane Isabel for metals, pesticides, and acid volatile sulfides/simultaneously extracted metals (AVS/SEM). The water extending across Watson Creek Road, from Watson Creek to the Gunpowder River, was 4.5 feet deep. Samples were taken to evaluate the impact that the storm had on mobilizing metals.

Ms. Powels displayed a slide depicting sixth year plans for Watson Creek. Green bullets denote the same type of activities, with a modified approach. For example, whole body and fillet samples will be analyzed with regard to the fish issue. Blue bullets denote new activities, such as surface water sampling, which has not been evaluated since the ROD. Surface water is not a large issue, but concern exists to ensure that the right measures are taken. Toxicity testing is planned to cover both New O-Field and Watson Creek. Vegetation mapping and piscivorous avian observation is also planned. Avian piscivores are a sensitive receptor for mercury contamination.

Mr. Henry asked if any eagles are known to nest in that area. Ms. Powels stated that eagles nest in the area, and activities must be restricted for them, despite their large foraging areas.

New O-Field (OU4)

Ms. Powels displayed a slide depicting the location and layout of New O-Field. The removal action, the remedial investigation/feasibility study (RI/FS), and other O-Field areas will be discussed.

Ms. Powels displayed slides detailing the New O-Field removal action status. Waste recovery is complete in Areas 1 through 6. Work is ongoing in an extension of Area 3. Waste in Area 7 will be removed following the first phase of screening of the waste pile that currently lies on top of Area 7. Generated waste is similar to waste from other areas, but in higher volumes.

Ms. Powels displayed a photograph of waste recovery at Area 1. Material was pulled from the marsh, located relatively close to Watson Creek. Following the removal of waste and soil, a pond formed. Ms. Powels displayed photographs of the Area 2 pond, and the working face of Area 1. Ms. Powels displayed a photograph of waterfowl in the New O-Field pond. The photograph was taken in July 2003. Waterfowl and vegetation very quickly came into the area.

Ms. Powels displayed a photograph of the Area 1 stockpile of recovered material. White phosphorus has been an issue, as it ignites upon contact with air. Efforts for proper disposal must be assured. As source material is moved about, soil must be screened and tested. Soil determined as clean can be left on the site. Work is ongoing with risk assessors to ensure that required levels are met.

Ms. Powels displayed a slide detailing New O-Field removal action future efforts. Waste screening and waste recovery efforts will continue. Sediment and surface water data will be collected from areas

cleared of waste. The fate of the newly created pond will be determined. Attempts will be made to characterize the subsurface condition in the upland disposal trenches. There are nine disposal trenches located in the New O-Field area in addition to the burn pits that were identified. Test digs may be planned, depending on approval from Installation Safety. Possible testing locations would be situated along the trenches, or within them if possible, to characterize materials within the trenches.

Mr. Henry asked if the trenches were found due to geologic studies in the area. Ms. Powels stated that they were located during the geophysical studies, and the locations are consistent with the historical survey records.

Ms. Powels displayed a slide detailing the removal action schedule. Post-closure sampling will be conducted from Winter 2003 until Summer 2004. Waste recovery from Area 7 should be completed in Winter 2003/2004. Waste screening and material handling will be completed between Winter 2003 and Summer 2004. New O-Field removal action is scheduled for demobilization in Winter 2004.

Mr. Stachiw asked if all of the material had been removed, or if excess material still remained in some areas. Ms. Powels stated that the original goal was to remove all materials, so that further remedial action would not need to be conducted again. Success will not be known until levels are evaluated. APG will work closely with risk assessors to ensure that sufficient waste removal has been achieved.

Ms. Powels displayed a slide detailing the New O-Field RI/FS Natural Attenuation Assessment. With regard to groundwater, a natural attenuation assessment has been conducted, and work has coordinated with the EPA. Basically, a complete groundwater exposure pathway for human receptors does not exist. Remaining concern exists for impact to ecological receptors in the transition zone, where groundwater discharges to the surface water. Monitoring will consist of collecting samples, toxicity testing, and possible pore water sampling. The Army will have to work with regulators to ensure that all issues are addressed.

Ms. Powels stated that if toxicity testing indicates excess risk to ecological receptors, then monitored natural attenuation would not work. Bioremediation, however, may still be an option. Efforts must be made to address the contaminants that are driving the risk. Efforts must be tied closely with risk assessors, such that in the event of a problem, remediation actions can be evaluated.

Ms. Powels stated that the Natural Attenuation Report would be updated to incorporate recommendations. The draft final New O-Field Groundwater Evaluation will be finalized, and the remainder of information will be incorporated into the FS. New O-Field will not be sampled for perchlorate, as there is no human health receptor for groundwater.

Ms. Powels displayed a slide providing a RI/FS ecological risk assessment (ERA) update. Project team meetings were held in September and October 2003 with the EPA to discuss the incorporation of New O-Field waste removal action into the ERA. Removal activities resulted in the creation of a pond, and involve continued work with excavated soil. Concern exists over the new aquatic habitat, which has not previously been assessed. Additional sediment samples and surface water samples from the pond are needed.

Ms. Powels displayed slides listing ERA sampling efforts. Nine sediment and nine surface water samples were collected in November and December 2003. Four samples were collected in areas of observed groundwater seeps, or overland run-off from former disposal trenches. Five samples were collected from the main body of the pond. All samples were analyzed for full suite chemistry. Surface water and sediment toxicity tests were also conducted.

Ms. Powels stated that four surface soil samples, from waste piles, were collected to assess the impact of the excavated soils staged on the site. All samples were analyzed for full suite chemistry. Ms. Powels displayed a map depicting the location of sample sites at New O-Field. Currently, unvalidated data is available. VOCs were observed, and are consistent with findings in the groundwater. The locations of the four waste pile samples, and pond samples were indicated.

Mr. Henry asked what the green strips on the map indicated. Ms. Powels indicated the locations of the marsh, pond, waste piles, burn trenches, and burial trenches. The green strips represent areas of groundwater seeps into the pond.

Mr. Henry asked if the pond on the map is the newly formed pond. Ms. Powels stated that it is the new pond created as a result of waste removal, and indicated the location of nearby Watson Creek.

Ms. Powels displayed a slide listing the next steps for New O-Field. Soil chemistry and aquatic toxicity test results will be available in late January 2004. Depending on the results, additional soil testing may be planned. Old and new data will be combined, to revise the screening level and baseline for the risk assessment to be presented in the Spring 2004.

Other O-Field Areas

Ms. Powels displayed a slide providing a background for Other O-Field Areas (OOA). Comments received from review of the RI report indicated concern that some surrounding areas had not been fully characterized. Isolated contaminant detections had been observed in some wells. As a result, additional fieldwork will be completed in the OOA.

Ms. Powels stated that some groundwater sampling was conducted at OOA in 1993, 1994, and 1997. Some limited geophysical surveys were conducted around Well OF-10. Well OF-10 had some metals detections, but no significant anomalies were discovered. Some isolated VOCs were also detected in two other wells.

Ms. Powels displayed slides detailing OOA planned activities. Follow-on RI/FS activities include record searches, geophysical surveys, direct push technology (DPT) groundwater sampling, monitoring well installation, and media sampling.

Mr. Henry asked where the geophysical surveys would be conducted. Ms. Powels indicated the area. Mr. Henry noted that it would be interesting to include information from the EM-31 previously conducted. Ms. Jen Harris (GP) stated that work would begin with EM-31 and magnetic surveys, and then continue with GPR depending on findings. Ms. Powels noted that the work plan had been submitted in September 2003 for regulatory review.

Ms. Powels stated that field activities for OOA are scheduled for February through May 2004. The Draft RI Addendum is planned for July 2004. If a FS, Proposed Plan, and ROD are required, they will be tentatively scheduled for 2005.

VIII. CLOSING REMARKS

Mr. Stachiw stated the Mr. Henry had asked that information on PBC definitions be handed out.

Mr. Henry requested that he be mailed a report or guide developed by community members on non-stockpile information, and that the information be presented at a future meeting. Mr. Henry also asked for an update on any evaluations related to the problem of eagles flying into power lines.

Mr. Stachiw stated that Mr. Henry has also asked that RAB Members be provided with a description of the different types of contracts at APG. For a rough example, a person wants to have their yard mowed, and estimates that two hours of labor would be involved, at a cost of approximately 10 to 12 dollars an hour. That person offers someone 25 dollars to mow their lawn. If the lawn is mowed to the satisfaction of the person, the worker will get 25 dollars. Another possible scenario would be to monitor the time it takes the worker to mow the lawn, and to pay him by the hour, at 12 dollars an hour. Unfortunately, the worker may decide to take anywhere from two to seven hours to mow the lawn. This scenario would represent a time and materials contract. Intense monitoring is needed, and the end product may not be what was originally desired. Hence, fixed price contracts would be preferred, as the end product can be defined. Monitoring would still be required, but a good product would be received, at a more desirable price. Savings are seen when the project is done for a price less than it was estimated to cost. Of the different types of contracts, including cost-plus, fixed-fee, and time-and-materials, fixed-price contracts have been the staple at APG for environmental work over the past 12 years.

At 9:40 p.m., after confirming that no one present had further questions, Mr. Stachiw adjourned the meeting. The next APG IRP RAB Meeting will be held on Thursday, 26 February 2004 at 7:00 pm in the Edgewood Senior Center. The J-Field and Canal Creek Study Areas will be the topics of discussion.